

Claims

1. A display apparatus comprising:
an emissive spatial light modulator comprising an array of pixels each
5 arranged to output substantially randomly polarised light;
a birefringent lens positioned to receive light from the spatial light modulator
arranged in a first mode of operation of the display apparatus to direct light of a first
polarisation component into a first directional distribution and in a second mode of
operation of the display apparatus to direct light of a second polarisation component
10 into a second directional distribution different from the first directional distribution;
a quarter waveplate; and
a linear polariser,
wherein the quarter waveplate is arranged between the spatial light modulator
and the birefringent lens and the linear polariser is arranged on the opposite side of
15 the birefringent lens from the quarter waveplate.
2. A display apparatus according to claim 1, wherein
the birefringent lens is a passive birefringent lens arranged to direct light of a
first polarisation component into said first directional distribution and to direct light
20 of a second polarisation component into said second directional distribution, and
the display apparatus further comprises a switchable polarisation rotator
arranged between the birefringent lens and the linear polariser, the switchable
polarisation rotator being switchable between a first mode in which incident light of
said first polarisation component is output with a polarisation allowing it to be passed
25 by the linear polariser and a second mode in which incident light of said second
polarisation component is output with a polarisation allowing it to be passed by the
linear polariser.
3. A display apparatus according to claim 1, wherein the birefringent lens is an
30 active birefringent lens switchable between a first mode in which light having a

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polarisation allowing it to be passed by the linear polariser is directed into said first directional distribution and a second mode in which light having a polarisation allowing it to be passed by the linear polariser is directed into said second directional distribution.

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4. A display apparatus according to any one of the preceding claims, wherein said pixels of the spatial light modulator contain an organic electroluminescent material.

10 5. A display apparatus according to any one of the preceding claims, wherein the optical axis of the waveplate is aligned at substantially 45 degrees to the alignment of the birefringent optical axis birefringent material of the lens at the surface of the lens closest the waveplate.

15 6. A display apparatus comprising:
an emissive spatial light modulator comprising an array of pixels of organic electroluminescent material each arranged to output substantially polarised light;
a switchable polariser being switchable between a first and a second polarisation mode in which the polariser passes light of respective polarisation
20 components;
a birefringent lens positioned to receive light from the spatial light modulator arranged to direct light of a first polarisation component into a first directional distribution and to direct light of a second polarisation component into a second directional distribution different from the first directional distribution, the
25 birefringent lens and the switchable polariser being positioned in series.

7. A display apparatus according to any one of the preceding claims, wherein the second directional distribution is the same as the input distribution, whereby the birefringent lens has substantially no optical effect.